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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/834,615	04/16/2001	Ibraheem T. Badejo	105841	3897
7590 01/18/2005 OLIFF & BERRIDGE, PLC P.O. Box 19928 Alexandria, VA 22320			EXAMINER LEUNG, JENNIFER A	
			ART UNIT 1764	PAPER NUMBER

DATE MAILED: 01/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/834,615

Applicant(s)

BADEJO ET AL.

Examiner

Jennifer A. Leung

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-102 is/are pending in the application.
- 4a) Of the above claim(s) 31-95,97 and 98 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30,96 and 99-102 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-102 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8-3-01.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 1764

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims 1-30, 96 and 99-102 in the reply filed on October 26, 2004 is acknowledged. The traversal is on the ground(s) that,

“The inventions must be independent... or distinct as claims; and there must be a serious burden on the Examiner if restriction is not required...” (emphasis added). Applicants respectfully submit that the Office Action has failed to establish the second requirement set forth in MPEP 803, that a serious burden exists on the Examiner if a restriction is not required between the Groups of claims.” (page 2, first paragraph).

This is not found persuasive because a search of all Groups of claims would require a search in the separate and diverse classes, as stated in the previous Office Action, thus demonstrating a sufficient burden on the Examiner. The requirement is still deemed proper and is therefore made FINAL. Claims 31-95, 97 and 98 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention or species, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

Art Unit: 1764

the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1-21, 96 and 99-101 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunn (EP 0 170 526) in view of von Bramer (US 3,260,637) OR Okawara et al. (US 4,328,170).

Regarding claims 1, 2, 96 and 99-101, Dunn (figure; generally, page 3, line 34 to page 10, line 5) discloses an apparatus comprising:
an applicator body (i.e., outer sleeve 1, defining a tube; figure; page 9, line 23 to page 10, line 5);
a liquid adhesive contained in a frangible vial held within the applicator body (i.e., liquid adhesive 3 in frangible ampoule 2; page 8, line 10 to page 9, line 22);
a solid support (i.e., fibrous material 6; page 6, line 23 to page 7, line 29) attached to the applicator body 1 (i.e., located at its tip; see FIG. 1) and in a non-contacting relationship with the liquid adhesive 3; and
a first polymerization initiator or rate modifier loaded in or on said solid support (i.e., a predetermined appropriate amount of an activating or accelerating second component; page 6, lines 29-32).

Dunn further discloses that, "... the dispenser of this invention may be used with any chemical formulation or adhesive formulation in which an activating component is to be kept separate from the primary material until use," (page 5, lines 17-20). Various examples of suitable polymerization initiators or rate modifiers for two-component liquid adhesive systems are described on page 4, line 20 to page 5, line 5. However, Dunn is silent as to the first polymerization initiator or rate modifier being specifically selected from the group consisting of

Art Unit: 1764

quaternary ammonium salts and tertiary amines. In any event, it would have been obvious for one of ordinary skill in the art at the time the invention was made to select a quaternary ammonium salt or a tertiary amine for the first polymerization initiator or rate modifier in the apparatus of Dunn, on the basis of suitability for the intended use, because the selection of known equivalents merely involves routine skill in the art, and furthermore, the use of such compounds as polymerization initiators or rate modifiers for liquid adhesives is well known in the art, as evidenced by von Bramer and Okawara et al. von Bramer teaches a catalyst comprising tertiary amines, for promoting polymerization of cyanoacrylate adhesives (column 2, line 12 to column 4, line 7). Okawara et al. teaches a catalyst comprising quaternary ammonium salts, for promoting polymerization of cyanoacrylates (column 2, line 67 to column 4, line 68).

Regarding claims 3-17, Okawara et al. further defines the quaternary ammonium salts to include, for example, tetraalkyl ammonium halide, tetrabutyl ammonium halide, tetra butyl ammonium chloride, quaternary ammonium salts other than benzalkonium chloride, quaternary ammonium sulfates, quaternary ammonium hydrogen sulfates, or quaternary ammonium salts represented by the formula of claim 8 (see column 2, line 67 to column 4, line 68). Furthermore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to select any other known, equivalent, quaternary ammonium salt for the rate modifier/initiator in the apparatus of Dunn, on the basis of suitability for the intended use, because the substitution of known equivalents merely involves routine skill in the art.

Regarding claims 18 and 19, Dunn discloses that the liquid adhesive 3 may comprise a cyanoacrylate monomer (page 4, line 20 to page 5, line 20; page 8, line 23 to page 9, line 4). Although Dunn is silent as to the cyanoacrylate monomer comprising α -cyanoacrylates (e.g., a

Art Unit: 1764

1,1-disubstituted ethylene monomer), it would have been obvious for one of ordinary skill in the art at the time the invention was made to select such a monomer for the liquid adhesive in the apparatus of Dunn, on the basis of suitability for the intended use, because the use of α -cyanoacrylates for liquid adhesives is well known in the art, as evidenced by von Bramer (column 1, lines 17-20).

Regarding claims 20 and 21, Dunn discloses that the liquid adhesive 3 may comprise a cyanoacrylate monomer (page 4, line 20 to page 5, line 20; page 8, line 23 to page 9, line 4), but is silent as to whether the liquid adhesive further comprising at least one of the recited plasticizers. von Bramer teaches a liquid adhesive comprising a cyanoacrylate monomer, wherein a plasticizer, e.g., a polymethacrylate, is incorporated therein (column 4, line 43 to column 5, line 20). It would have been obvious for one of ordinary skill in the art at the time the invention was made to further incorporate a plasticizer into the liquid adhesive 3 in the apparatus of Dunn, on the basis of suitability for the intended use, because the plasticizer allows the adhesive to be advantageously thickened, as taught by von Bramer.

3. Claims 22-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunn (EP 0 170 526) in view of von Bramer (US 3,260,637) or Okawara et al. (US 4,328,170), as applied to claim 1 above, and further in view of Seeman (US 4,353,463) and Buck (US 3,903,055).

Regarding claims 22-26, Dunn discloses that the solid support 6 may comprise any absorbent or retentive material such as gauze, fiber glass, or other suitable fabric material, wherein the material is dipped into a predetermined amount of initiator/rate modifier (page 6, last paragraph). However, Dunn is silent as to the initiator/rate modifier being "chemically bonded" to the material forming the solid support, or whether the material may comprise one of the

Art Unit: 1764

instantly claimed materials. Seeman (FIG. 1-7; column 6, line 57 to column 7, line 32; column 5, line 7 to column 6, line 33) teaches an assembly, suitable for dispensing a liquid adhesive, comprising an applicator body (i.e., plastic walled cylinder 1; FIG. 1) for containing a liquid adhesive (i.e., liquid-curable resin component 2) in a non-contacting relationship with a solid support (i.e., aggregate 5) that is attached to the applicator body. In particular, Seeman teaches that a polymerization initiator or rate modifier (i.e., a curing catalyst for the liquid resin component 2) may be chemically bonded to the material forming the solid support 5 (e.g., the catalyst may be embedded or incorporated into the mixer matrix; column 4, lines 14-21), wherein the mixer matrix comprises a liquid-permeable, three-dimensional, unitary matrix having a plurality of continuous, non-linear flowpaths, or any structural configuration which permits commingling of the liquid adhesive with the catalyst, such as a porous inorganic aggregate, a stack of spaced perforate plates, a mass of fibers or filaments, a container filled with broken glass particles or steel wool, etc. (column 4, lines 2-50). It would have been obvious for one of ordinary skill in the art at the time the invention was made to chemically bond the initiator or rate modifier to the solid support in the modified apparatus of Dunn, on the basis of suitability for the intended use, because by chemically bonding the catalyst to the solid support, e.g., coating the catalyst onto or embedding the catalyst in the matrix, the catalyst is not readily flushed out by the initial resin flow, as taught by Seeman. Furthermore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to select one of the claimed materials for the solid support in the apparatus of Dunn, on the basis of suitability for the intended use, because the substitution of known, equivalent materials for achieving the disclosed mixing function merely involves ordinary skill in the art. Additional, equivalent, solid support materials

Art Unit: 1764

are further evidenced by Buck (see column 3, line 14 to column 4, line 56).

Regarding claims 27-30, although Dunn is silent as to the provision of a first and a second polymerization initiator or rate modifier to the solid support, it would have been obvious for one of ordinary skill in the art at the time the invention was made to select plural polymerization initiators or rate modifiers to load on the solid support in the modified apparatus of Dunn, on the basis of suitability for the intended use, because it is well known in the art to use a system of one or more catalysts to achieve a desired rate of polymerization, as evidenced by von Bramer (see column 2, lines 12-46).

4. Claim 102 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dunn (EP 0 170 526) in view of von Bramer (US 3,260,637) or Okawara et al. (US 4,328,170), as applied to claim 99 above, and further in view of Cobey (US 3,223,083).

Dunn is silent as to the applicator body comprising a syringe. In any event, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the applicator body of Dunn to comprise a syringe, on the basis of suitability for the intended use, because the use of syringes for dispensing adhesives is well known in the art, as evidenced by Cobey. In particular, Cobey teaches the use of a syringe 13 (Figure) for dispensing and injecting a liquid adhesive, e.g., cyanoacrylate (column 2, lines 16-21), into damaged living tissue such as bone, cartilage, tendon and soft tissue, in order to aid the natural repair of the tissue.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed.

Art Unit: 1764

Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-30, 96 and 99-102 rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 13-24 of U.S. Patent No. 6,676,322, claims 1-7 of U.S. Patent No. 6,099,807, claims 1-20 of U.S. Patent No. 5,928,611, and claims 21, 23-30 of U.S. Patent No. 6,217,603, taken collectively, and further in view of von Bramer (US 3,260,637) or Okawara et al. (US 4,328,170).

The above named patents collectively claim the apparatus as instantly claimed, and in particular, the above named patents claim an applicator tip comprising a solid support having a "polymerization or cross-linking accelerator or initiator" disposed therein or thereon, substantially comprising the instantly claimed first polymerization initiator or rate modifier. Although the above named patents are collectively silent as to the instantly claimed polymerization initiator or rate modifier compounds, it would have been obvious for one of ordinary skill in the art at the time the invention was made to select such compounds for the initiator/rate modifier, on the basis of suitability for the intended use, because such compounds are well known in the art for their polymerization/cross-linking acceleration/initiation properties,

Art Unit: 1764

as evidenced by von Bramer and Okawara et al. Von Bramer teaches a catalyst comprising tertiary amines, for promoting polymerization of cyanoacrylate adhesives (column 2, line 12 to column 4, line 7). Okawara et al. teaches a catalyst comprising quaternary ammonium salts, for promoting polymerization of cyanoacrylates (column 2, line 67 to column 4, line 68). The same comments with respect to von Bramer and Okawara et al., from above, apply.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Morane et al. (US 3,964,643), Shiina et al. (JP 59-226075) and Toa Gosei Chem (JP 11-049195) further illustrate the state of the art of various apparatus used for dispensing liquid adhesives, comprising separate monomer and polymerization initiator/rate modifier components.

* * *

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Leung whose telephone number is (571) 272-1449. The examiner can normally be reached on 8:30 am - 5:30 pm M-F, every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

Art Unit: 1764

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer A. Leung

January 11, 2005 *jal*

Hien Tran
**HIEN TRAN
PRIMARY EXAMINER**